

REMARKS

Claims 1-6, 18, 20-22, 25-30, 33 and 35-38 remain for prosecution in the present application. Among these claims, claims 1 and 33 are independent claims and the remaining claims are dependent claims.

Information Disclosure Statement

A supplemental Information Disclosure Statement accompanies this Amendment to make a record Japanese patent document 085512 (2004). A copy of the materials made available from the JPO website is enclosed with the IDS.

This Japanese patent document discloses a system for measuring container heel thickness. Light is directed from a source 13 onto the container heel, and reflections from the outside and inside surfaces of the container heel are directed at L1,L2 onto a camera 15. Heel thickness can be measured as a function of the separation between reflections L1,L2 at the camera sensor.

Drawings

A Replacement Sheet for the drawing sheet containing FIGS. 1 and 2A accompanies this Amendment. Also accompanying this Amendment is an Annotated Marked-up Drawing showing the reference numerals 42, 110,114, 124 deleted from the Replacement drawing.

Claim Objections

The printing anomaly identified by the Examiner, at claim 3, line 2 of the application as filed, has been corrected. This, of course, does not reflect any change in the scope of the claim.

Claim Rejections - Prior Art

Independent Claim 1 and Dependent Claims 2-6, 18, 20-22 & 25-30

Independent claim 1 has been rejected as allegedly being anticipated by Woodrow 4,165,939. Reconsideration is respectfully requested.

It is axiomatic that, in order to "anticipate" a claim, "all the elements in the claim (or possibly their equivalents...) must have been disclosed in a single prior art reference or device." *Radio Steel & Mfg. Co. v. MTD Products, Inc.*, 731 F.2d 840, 845, 221 U.S.P.Q. 657, 661 (Fed. Cir. 1984). Where the claims recite specific "means-plus-function" elements, the limitations that must be met by an allegedly anticipatory reference "are those set forth in each statement of function. Such a limitation cannot be met by an element in a reference that performs a different function." *RCA Corp. v. Applied Digital Data Systems, Inc.*, 730 F.2d 1440, 1445 n.5, 221 U.S.P.Q. 385, 389 n5 (Fed. Cir. 1984). Moreover, "it is incumbent upon the Examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1462 (BPAI 1990). If anticipation is based upon alleged inherency, such alleged inherency must be certain, and cannot be established by probabilities or speculation. *Ex parte Cyba*, 155 U.S.P.Q. 756 (POBA 1967); *Ex parte Keither*, 154 U.S.P.Q. 320 (POBA 1967).

The Woodrow reference discloses an apparatus for inspecting the bottom surface of a can 12 as the can is transported by a linear conveyer 11 over an inspection station 13 (column 4, lines 21-23). A light source 16, such as a laser, directs a light beam onto the can bottom so that the beam sweeps along a path 31 on the container bottom as

the can is transported linearly by the conveyor (column 4, line 67 to column 5, line 8). The reflected light energy is directed onto an array 24 of detector elements 25 (column 5, lines 8-13). An analysis circuit 26 determines whether the bottom contour is within an allowable envelope 36 around the nominal track 35 over the sensor elements 25 (FIG. 5; column 5, lines 20-32).

With respect to claim 1 of the present application, there is absolutely no disclosure or suggestion whatsoever in Woodrow of "means for holding a container in position and rotating the container around an axis," as recited in claim 1. Nor does the analysis circuit 26 in Woodrow determine, as a combined function of reflected light energy and container rotation, or as a function of anything else, anything even remotely related to departure of the container bottom from a plane perpendicular to the axis of rotation of the container. Thus, Woodrow does not and cannot "anticipate" claim 1 of the present application.

Nor would the invention of claim 1 have been obvious over Woodrow combined with other prior art of record. Gomibuchi EP 0483966 discloses a system for inspecting a container bottom for checks, in which the container is held in position and rotated around an axis. However, it would not have been obvious, in view of Gomibuchi or otherwise, to hold the can in Woodrow stationary and rotate the can around an axis. The whole point of Woodrow is to track a path along the container bottom, as shown in FIGS. 9-11 in sequence, as the can is being transported linearly over the optics. Such a path would not be followed if the container were held stationary and rotated. Furthermore, there is no suggestion in either reference of determining departure of the container bottom from an angle perpendicular to the axis of rotation.

Dependent claim 2 has been amended for clarity, and not to distinguish over the Woodrow patent, which does not disclose or remotely suggest the subject matter of the claim. Thus, claim 2 recites that the light energy is directed from the source to the periphery of the container bottom, and that the information processor determines departure of the periphery of the container bottom from a plane perpendicular to the axis of container rotation.

Dependent claim 3 recites that the container includes knurling around the periphery of the container bottom, and that the image processor is responsive to the reflected light energy to determine the depth of the knurling. There is no illustration of any knurling around the periphery of the container bottom in Woodrow, and certainly no suggestion whatsoever that the inspection apparatus illustrated in that reference could or should determine the depth of such knurling.

Claims 4-6 are allowable both by reason of dependency from claim 1, which is self allowable for reasons discussed above, and because of the additional novel limitations set forth therein. (A clerical correction has been implemented in claim 6.)

Claims 18 and 20-22 again are directed to reflection and/or analysis of light energy from knurls on the container bottom. The Examiner suggests that these claims are anticipated by Woodrow, but points to no specific portion of the disclosure of this reference that relates in any conceivable way to inspection of knurls on a container bottom.

Dependent claims 25-30 likewise are allowable for reasons discussed above in connection with parent claim 1, and because of the additional novel limitations set forth therein.

Independent Claim 33 and Dependent Claims 35-38

Amended independent claim 33 is directed to a method of inspecting a container bearing surface, which includes analyzing, from position data obtained from light energy reflected from the bearing surface, departure of the bearing surface from a plane perpendicular to the axis of rotation of the container. Claim 33 has been rejected as being "anticipated" by Gomibuchi EP0483966A2. Gomibuchi discloses a system to inspect for checks in a container wall, including a container bottom wall. Checks are mirror-like cracks in a container wall that reflect light from the source 6 onto the camera 9, which light would not be incident on the camera but for reflections from checks or other anomalies in the container. The image processing apparatus 14 scans the two-dimensional camera 9 as a function of container rotation to highlight reflections from a check (column 3, lines 7-28). FIG. 2 illustrates the container 1 being illuminated through the sidewall of the container so that checks reflect light onto the camera 9. The container bottom is illustrated in FIG. 4, in which item 12 is a mold code (column 5, lines 46-50), and numerals 10 and 11 illustrate reflective checks (column 5, lines 40-45). There is no disclosure or suggestion anywhere in this reference of determining departure of the periphery of the container bottom from a plane perpendicular to the axis of rotation of the container. Thus, the Gomibuchi reference does not anticipate claim 33 of the present application.

Nor would the subject matter of claim 33 have been obvious over Gomibuchi combined with other prior art of record, including Woodrow, for reasons discussed above.

Claims 35-38 are allowable both by reason of dependency from claim 33, and because of the additional novel limitations set forth therein.

Gardner 4,751,386 discloses a system for measuring container lean as the container passes multiple light source/sensor pairs while traveling on a linear conveyer. The Gardner patent has nothing to do with the invention of the present application as claimed.

Waugaman 5,414,939 apparently is cited for provision of back-up rollers 40. Note that container lean is measured using rollers 30,32 (FIG. 1A) that engage diametrically opposed points on the container bottom. This technique also is illustrated in U.S. 4,433,785 discussed in the background portion of the present application text and the background portion of the Waugaman reference.

Minami 4,230,940 has been cited relative to claim 17 of the present application, which has been canceled in any event.

Nonaka 5,195,026 has been cited only relative to dependent claim 38 and canceled claim 40, and is not relevant to the distinguishing features of the application claims discussed above.

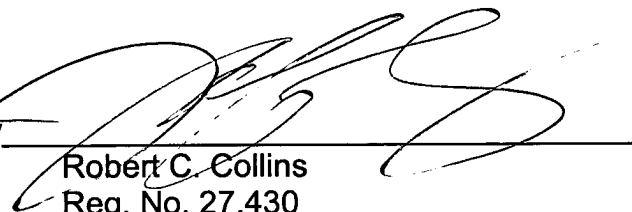
It therefore is believed and respectfully submitted that all claims 1-6, 18, 20-22, 25-30, 33 and 35-38 remaining in the application are allowable at this time, and favorable action is respectfully solicited.

Please charge any fees associated with this submission to Account No. 15-0875 (Owens-Illinois).

Respectfully submitted,

REISING, ETHINGTON, BARNES,
KISSELLE, P.C.

By

A handwritten signature in black ink, appearing to read 'R. C. Collins', is written over a horizontal line.

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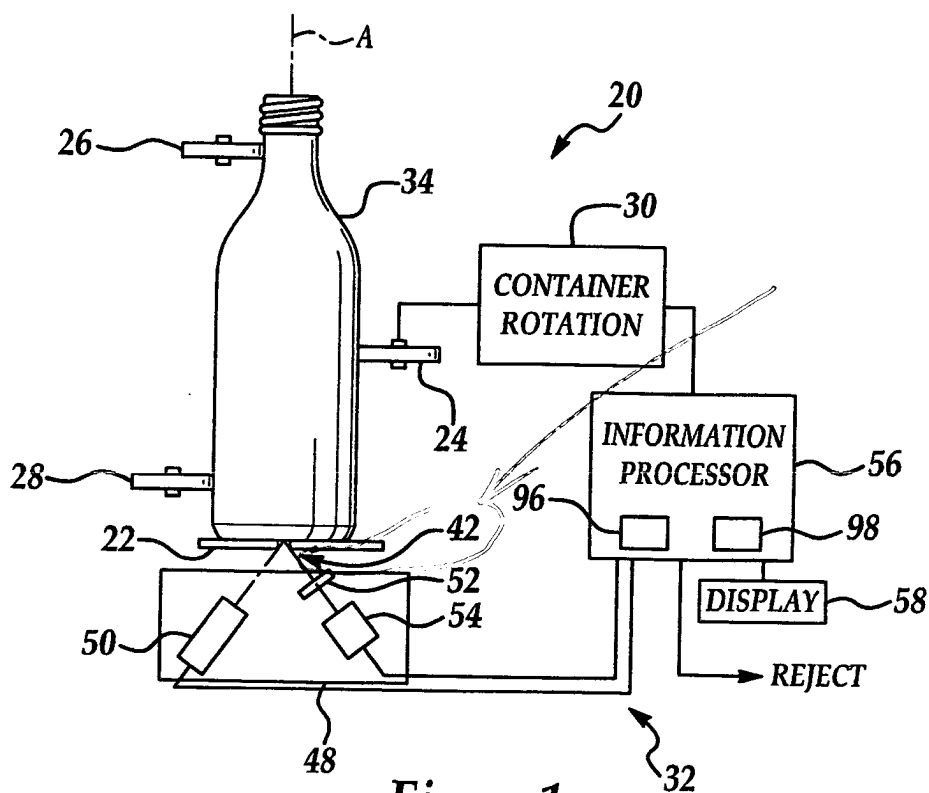


Figure 1

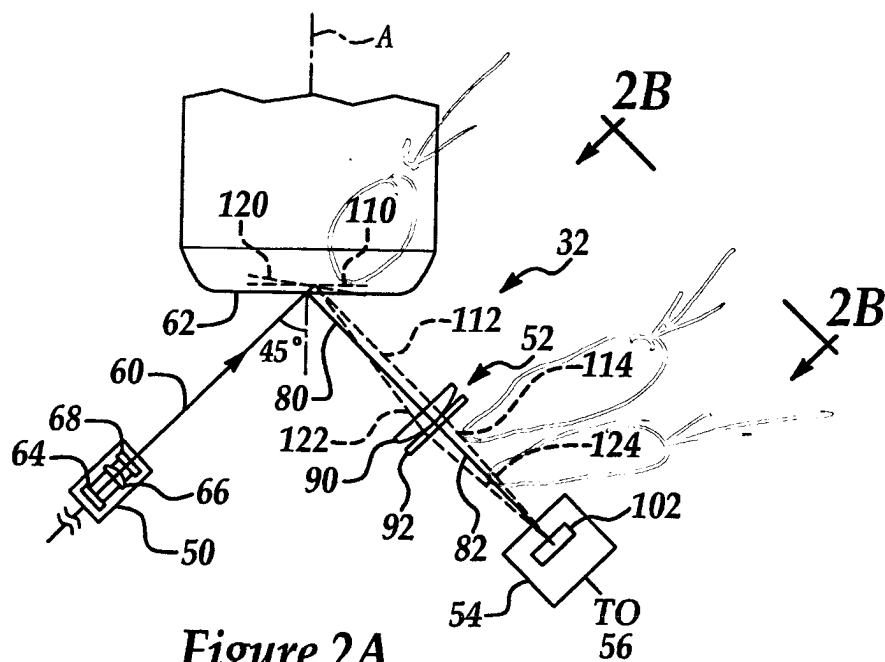


Figure 2A

AMENDMENTS TO THE DRAWINGS

Please replace the drawing sheet containing FIGS. 1 and 2A as filed with the enclosed Replacement Sheet containing these figures as corrected.